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Pseudoacrodictys from southern China: *P. ambigua* sp. nov. and a new record

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Abstract—Two species of *Pseudoacrodictys* were discovered from tropical forests in southern China. One new species, *P. ambigua*, is described and compared with closely related taxa, and *P. magnicornuata* is newly recorded from China.

Key words—hyphomycetes, taxonomy

Introduction

The genus *Pseudoacrodictys*, typified by *Acrodictys eickeri* [≡ *P. eickeri*], was erected by Baker & Morgan-Jones (2003) to accommodate seven species of *Acrodictys*. Subsequently, seven additional *Pseudoacrodictys* species have been described (Somrithipol & Jones 2003, Castañeda-Ruíz et al. 2010, Zhang et al. 2011, Rashmi & Pandey 2012, Fiuza et al. 2014, Ma et al. 2016). The genus is characterized by single, straight or slightly flexuous, thick-walled, cylindrical, aseptate or septate, brown to dark blackish-brown conidiophores with an integrated, terminal, monoblastic, cylindrical, determinate or (more commonly) indeterminate with percurrent elongate conidiogenous cells and schizolytic conidial secession. Conidia, which are holoblastic, solitary, acrogenous, subglobose, broadly pyriform to turbinate or somewhat irregularly shaped, dictyoseptate with numerous obliquely arranged septa, and brown to dark brown, commonly possess pale brown, aseptate or septate, straight, undulate, involute to uncinate appendages.

During our ongoing survey of microfungi associated with plant debris in tropical and subtropical forests of southern China, two species with the

Table 1. Morphological comparison of *Pseudoacrodictys* species with appendaged conidia

Species	Conidia		Appendages		
	Shape	Size (μm)	Number	Length (μm)	Shape
P. ambigua	Obclavate or irregular, sometimes lobed	70–95 × 25–90	2–5	40–130	Subulate
P. appendiculata	Pyriform to turbinate	27–45 × 22–30	2–3	56	Subulate
P. balansae	Subnapiform, turbinate to irreg. subglobose, sometimes lobed	42–68 × 28–62	6–20	10–30	Curved, undulate, swollen
P. corniculata	Globose, subglobose, or broadly pyriform	19–35 × 7–30	3–4	8–20	Subulate, curved
P. eickeri	Pyriform to turbinate	28–64 × 22–42	3–4	7–12	Cylindrical
P. fici	Subglobose, sometimes lobed	35–52 × 22–44	2–4	30–70	Cylindrical
P. limoniaceae	Turbinate to obpyriform	21–34 × 3–33	1–8	6–17	Curved, horn-like
P. magnicornuata	Turbinate, subnapiform, subglobose, or irregular	50–87 × 50–67	9–35	18–50	Circinate
P. viridescens	Globose, subglobose, or broadly pyriform	62–80 × 40–60	4–6	8–20	Cylindrical

morphological characteristics of *Pseudoacrodictys* were collected on decaying twigs and dead stems: *P. ambigua* is proposed here as new to science, and *P. magnicornuata* represents a new record for China. Voucher specimens are conserved in the Herbarium, Department of Plant Pathology, Shandong Agricultural University, Taian, China (HSAUP) and Herbarium Mycologium, Chinese Academy of Sciences, Beijing, China (HMAS).

Pseudoacrodictys ambigua J.M. Gao & X.G. Zhang, **sp. nov.** Fig. 1

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Differs from all other *Pseudoacrodictys* species with appendaged conidia by its larger, obclavate or irregular, and sometimes lobed conidia and its longer conidial appendages.

Type: China. Yunnan Province: tropical forest of Menglun, on dead stems of unidentified broadleaf tree, 20 Dec. 2014, J.M. Gao (**holotype**, HSAUP H9624; **isotype**, HMAS 245608).

Etymology: *ambigua,* referring to the numerous obscure oblique conidial septa.

Fig. 1. *Pseudoacrodictys ambigua* (holotype, HSAUP H9624).
A. conidiophores, conidiogenous cells and conidia. B. conidia.

Colonies on natural substrate effuse, dark brown. Mycelium superficial and immersed, composed of branched, septate, brown hyphae. Conidiophores macronematous, mononematous, erect, straight or flexuous, septate, brown to dark brown, 45–75 × 3.5–7 µm. Conidiogenous cells integrated, terminal, cylindrical, monoblastic, indeterminate, with 1–2 percurrent elongations, smooth, dark brown, truncate at the apex after schizolytic conidial secession. Conidia acrogenous, holoblastic, solitary, dry, obclavate or irregular, dictyosporous, with numerous obscure oblique septa, thick-walled, sometimes lobed, brown, 70–95 × 25–90 µm. Basal cell cylindrical, delimited by a transverse, cambered septum, 6.0–7.0 × 3.5–5.0 µm. Appendages 2–5, aseptate, pale brown, straight or slightly flexuous, ≤130 µm long, 0.5–1.5 µm diam. at the conidial apex.

Comments—*Pseudoacrodictys* species with appendaged conidia are compared in Table 1; the other eight species all differ from *P. ambigua* by their smaller conidia with shorter appendages.

Pseudoacrodictys magnicornuata Fiuza, Gusmão & R.F. Castañeda-Ruiz, Mycotaxon 127: 36 (2014) Fig. 2

Colonies on natural substrate effuse, dark brown. Mycelium superficial and immersed, composed of branched, septate, brown hyphae. Conidiophores macronematous, mononematous, erect, straight or slightly flexuous, 3–5-septate, brown to dark brown, 40–65 × 4–6 µm, 6–7.5 µm diam. at the base. Conidiogenous cells integrated, terminal, cylindrical, monoblastic, indeterminate, with 1–2 percurrent extensions, smooth, brown, truncate at the apex. Conidia holoblastic, acrogenous, solitary, turbinate, subnapiform, subglobose, or somewhat irregularly shaped, dictyoseptate and with several obscure septa, thick-walled, brown, 40–70 × 30–55 µm, seceding schizolytically, the basal cell 2.5–3.5 µm diam. and delimited by a transverse, cambered septum. Appendages 9–20, aseptate, curly, undulate, swollen, pale brown, 8–30 × 3–6 µm, scattered around the conidia.

Specimen examined: **CHINA**, **Yunnan Province**, tropical forest of Dadugang, on dead stems of unidentified broadleaf tree, 22 Dec. 2014, J.M. Gao (HSAUP H9677).

Comments—*Pseudoacrodictys magnicornuata*, which was described from Brazil, is reported for the first time from China. The Chinese specimen closely matched the protologue description (Fiuza et al. 2014), except that the Brazilian type specimen had more (9–35) appendages.

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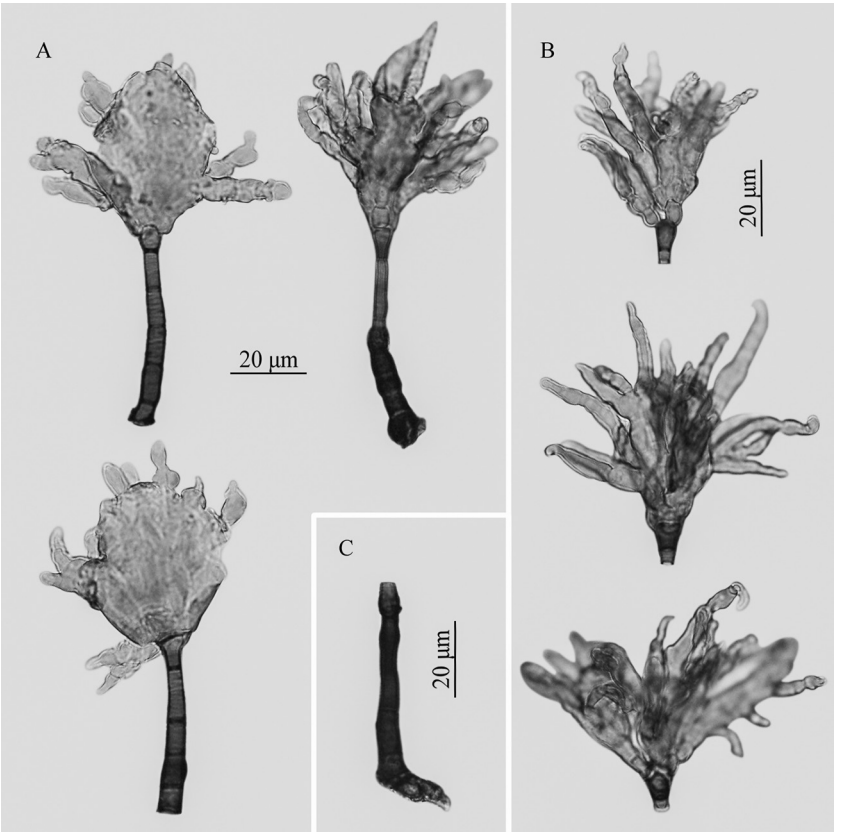

Fig. 2. *Pseudoacrodictys magnicornuata* (HSAUP H9677).
A. conidiophores, conidiogenous cells and conidia. B. conidia.
C. conidiophore and conidiogenous cell.

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Literature cited

Baker WA, Morgan-Jones G. 2003. Notes on Hyphomycetes. XCI. *Pseudoacrodictys*, a novel genus for seven taxa formerly placed in *Acrodictys*. Mycotaxon 85: 371–391.

Castañeda-Ruiz RF, Heredia Abarca G, Arias RM, Stadler M, Saikawa M, Minter DW. 2010. *Anaselenosporella sylvatica* gen. & sp. nov. and *Pseudoacrodictys aquatica* sp. nov., two new anamorphic fungi from Mexico. Mycotaxon 112: 65–74. http://dx.doi.org/10.5248/112.65

Fiuza PO, Gusmão, LFP, Cruz ACR, Castañeda-Ruiz RF. 2014. Conidial fungi from semiarid Caatinga biome of Brazil: a new species of *Pseudoacrodictys*. Mycotaxon 127: 33–37. http://dx.doi.org/10.5248/127.33

Ma YR, Xia JW, Castañeda-Ruíz RF, Zhang XG. 2016. Two new species of *Pseudoacrodictys* from Hainan, China. Nova Hedwigia 102: 69–75. http://dx.doi.org/10.1127/nova_hedwigia/2015/0303

Rashmi D, AK Pandey. 2012. *Pseudoacrodictys steviae* – a new generic and species record for India. Journal of Mycology and Plant Pathology 42: 251–253.

Somrithipol S, Jones EBG. 2003. *Pseudoacrodictys dimorphospora* sp. nov., a new graminicolous hyphomycete from Thailand. Sydowia 55(2): 365–371.

Zhang YD, Ma J, Wang Y, Ma LG, Castañeda Ruíz RF, Zhang XG. 2011. New species and record of *Pseudoacrodictys* from southern China. Mycological Progress 10: 261–265. http://dx.doi.org/10.1007/s1157-010-0696-z